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ZOOLOGY.—*On a collection of Copepoda made in El Salvador by Samuel F. Hildebrand and Fred J. Foster of the U. S. Bureau of Fisheries.*[1] C. DWIGHT MARSH.

This collection consisted of 15 bottles which were collected by Mr. Hildebrand and Mr. Foster in January and February, 1924. They were taken from the following lakes: Ahuachapan, Chalchuapa, Chamico, Coatepeque, Guija, Ilopango, and Olomega. Ilopango, Coatepeque, Chamico, and Chalchuapa may be classed as deep lakes; Olomega and Ahuachapan as shallow. Hildebrand, 1925, (3),[2] found a depth of 83 meters in L. Coatepeque; he states that Chalchuapa and Chamico are quite deep, that Ahuachapan is shallow, and that Olomega has an average depth of 2 meters. He took a deep water temperature in Lake Guija at a depth of 16 meters; this may have been the maximum depth.

Juday, 1915, (4), gave descriptions and sketch maps of lakes Ilopango and Coatepeque. He found a maximum depth of 215 meters in Ilopango. In Coatepeque he found a maximum depth of 110 meters.

All the collections were made from surface waters. Following is a list of the species found.

Lake Ahuachapan	*Cyclops tenuis* Marsh: *Diaptomus marshi* Juday
Lake Chalchuapa	*Cyclops tenuis* Marsh; *Diaptomus marshi* Juday
Lake Chamico	*Diaptomus siciloides* Lilljeborg
Lake Coatepeque	*Cyclops leuckarti* Claus; *Cyclops tenuis* Marsh
Lake Guija	*Cyclops albidus* Jurine; *Cyclops tenuis* Marsh; *Diaptomus* sp. all immature.

[1] Received April 1, 1931.

[2] Numbers in parenthesis refer to papers cited in the bibliography.

Lake Ilopango *Diaptomus siciloides* Lilljeborg
Lake Olomega *Cyclops leuckarti* Claus; *Diaptomus marshi* Juday.

It will be noticed that very few species were found, but it must be remembered that the collections were made within a short period of time and can be considered as representative of only the January and February fauna. The fact that the collections were all made at the surface must also be considered, for under certain conditions most of the mature copepods are found beneath the surface. This is shown in Juday's (1915, p. 247) report of Lake Atitlan, in which no mature forms were found in the 0—5 meter collection, while large numbers appeared between 5 and 30 meters.

The special interest of these collections is in the addition to our knowledge of the distribution of these species. Juday's paper, 1915, is the only preceding paper dealing with the Copepoda of El Salvador.

Notes in Regard to the Species

No importance attaches to the presence of *Cyclops albidus* and *Cyclops leuckarti*. Both species are cosmopolitan, and may appear in any collections.

Cyclops tenuis Marsh

This is the first record of *C. tenuis* in El Salvador. The species was described from material collected at Calabasas, Arizona. It is closely related to *C. leuckarti* from which it is distinguished by being smaller and more slender, with few (generally four) ova in each egg sac, lack of armature of the terminal segments of the female antennae, and the form of the *receptaculum seminis*. It was found in many localities in the Panama Canal Zone, Marsh 1913, (5), Dodds, 1926, (2), and was considered one of the most characteristic species of that region. It was found in Lakes Ahuachapan, Chalchuapa, Coatepeque, and Guija. It is to be presumed that eventually it will be found in other localities in Central America and Mexico.

Diaptomus siciloides Lilljeborg

Juday, 1915, has already reported *D. siciloides* from Lake Ilopango and Lake Coatepeque. In the Hildebrand and Foster collections it was found not only in these lakes but also in Lake Chamico. As shown by Marsh, 1929, (7), it is very widely distributed in the central and western United States. Since that publication it has been reported by Bajkov, 1930, (1), in Lake Winnepegosis, and has been found by Wright in Lake Erie. El Salvador is the most southern location and it has not been reported between that region and Texas.

In the United States, *D. siciloides* is found generally in small bodies of water. Possibly it may be somewhat significant that in El Salvador, it has, so far, appeared only in deep lakes.

Diaptomus marshi Juday

Juday, 1915, reported *D. marshi* from Puerto Barrios and Los Amates, Guatemala, and wrote his description from material collected at those local-

ities. Marsh, 1913, (5), reported it in the Panama Canal Zone and in 1919 (6), from Honduras. In the El Salvador collections it was found in Lakes Chalchuapa, Olomega, and Ahuachapan, and Pearse, 1915, (8), found it in Colombia. *Diaptomus columbiensis* Thiebaud 1914, (9), also collected in Colombia, is a synonym of *D. marshi*. So far as our present knowledge is concerned, it has a somewhat limited distribution, being confined to Guatemala on the north and Colombia on the south. While not found in all localities, it is not a rare species and in Lake Ahuachapan occurred in large numbers. Its preferred habitat is in shallow water or pools, while *D. siciloides*, as stated above, is found, in El Salvador, in deep bodies of water.

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ZOOLOGY.—*Three new pumas.*[1] E. W. Nelson and E. A. Goldman, Biological Survey, U. S. Department of Agriculture.

Further study of the large American cats assigned to *Felis concolor* Linné has resulted in the segregation of three geographic races which, in addition to those recently characterized by the authors (Journ. Mamm., **10**: 345–350, November 11, 1929), seem worthy of distinctive names.

Felis concolor kaibabensis, subsp. nov.

Kaibab Mountain Lion

Type.—From Powell Plateau, Grand Canyon National Park, Arizona (altitude 8,700 feet). No. 171186, ♂ adult, U. S. National Museum (Biological Survey collection), collected by J. T. Owens, April 15, 1911. X number 8432.

[1] Received April 15, 1931.